[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [66 FR 18870 4/12/2001]

[Docket No. 2001-NM-44-AD; Amendment 39-12176; AD 2001-07-10]

RIN 2120-AA64

Airworthiness Directives; McDonnell Douglas Model DC-9-81, -82, -83, and -87 Series Airplanes, Model MD-88 Airplanes, and Model MD-90-30 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that is applicable to certain McDonnell Douglas Model DC-9-81, -82, -83, and -87 series airplanes, Model MD-88 airplanes, and Model MD-90-30 series airplanes. This action requires a revision to the applicable Airplane Flight Manual (AFM) to provide the flightcrew with the appropriate landing distance and flap positions, if applicable, for wet or icy runways. This AD also provides for an optional terminating action for the applicable AFM revision. This action is necessary to prevent the flightcrew from performing a scheduled landing on a runway of potentially insufficient length due to failure of the weight-on-wheels spoiler lockout mechanism system and possible inactivation of the autospoiler actuator, which could result in the airplane overrunning the end of the runway during landing on a wet or icy runway. This action is intended to address the identified unsafe condition.

DATES: Effective April 27, 2001.

Comments for inclusion in the Rules Docket must be received on or before June 11, 2001.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2001-NM-44-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays. Comments may be submitted via fax to (425) 227-1232. Comments may also be sent via the Internet using the following address: 9-anm-iarcomment@faa.gov. Comments sent via fax or the Internet must contain "Docket No. 2001-NM-44-AD" in the subject line and need not be submitted in triplicate. Comments sent via the Internet as attached electronic files must be formatted in Microsoft Word 97 for Windows or ASCII text.

Information pertaining to this amendment may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California.

FOR FURTHER INFORMATION CONTACT: Albert Lam, Aerospace Engineer, Systems and Equipment Branch, ANM-130L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5346; fax (562) 627-5210.

SUPPLEMENTARY INFORMATION:

Background

The in-flight spoiler lockout mechanism system, which prevents manual movement of the spoiler lever in flight, either intentionally or unintentionally, when the flaps are extended eight degrees or greater, installed on McDonnell Douglas Model MD-90-30 series airplanes is part of the certification basis [i.e., 14 Code of Federal Regulations (CFR) part 25.697(b), amendment 25-57] for those airplanes. McDonnell

Douglas Model DC-9-81, -82, -83, and –87 series airplanes, and Model MD-88 airplanes were NOT certificated with an in-flight spoiler lockout mechanism system. However, after certification, Boeing installed a similar system on some Model DC-9-81, -82, -83, and -87 series airplanes, and Model MD-88 airplanes as a safety enhancement feature.

One of three events must occur during the landing phase to unlock the spoiler lever and permit its aft movement to deploy the ground spoilers at touchdown. The in-flight spoiler lockout mechanism system must receive an unlocking input from the autospoiler actuator, weight-on wheels spoiler lockout mechanism system, or nose gear ground sensing mechanism.

Identification of Unsafe Condition

The FAA has received several reports indicating that the wiring of the weight-on-wheels spoiler lockout mechanism system provides insufficient current/voltage to provide full operational capability of deployment of the ground spoilers (inboard and outboard) during ground operation on certain McDonnell Douglas Model DC-9-81, -82, -83, and -87 series airplanes, and Model MD-88 airplanes. Investigation revealed that such insufficient current/voltage may either cause the weight-on-wheels spoiler lockout mechanism system to fail to actuate when energized at main landing gear (MLG) touchdown on a wet or icy runway, or the associated circuit breaker to trip.

On a wet or icy runway, it is also likely that MLG wheel spin-up will be insufficient to activate the autospoiler actuator upon landing, which initiates the procedures for unlocking the in-flight spoiler lockout mechanism system.

The unlocking inputs of both the weight-on-wheels spoiler lockout mechanism system and autospoiler actuator are independent of each others input, but the in-flight spoiler lockout mechanism system will react to whichever input occurs first. If the weight-on-wheels spoiler lockout mechanism system fails at MLG touchdown on a wet or icy runway, and the autospoiler actuator does not activate due to insufficient MLG wheel spin-up, compression of the nose landing gear strut will provide an alternate unlocking input to the in-flight spoiler lockout mechanism system. However, if the flight crew is unaware of this failure and inactivation on a wet or icy runway, a scheduled landing on a runway of potentially insufficient length could occur, which could result in the airplane overrunning the end of the runway.

The weight-on-wheels spoiler lockout mechanism system on McDonnell Douglas Model MD-90-30 series airplanes is similar in design to that on the affected McDonnell Douglas Model DC-9-81, -82, -83, and -87 series airplanes, and Model MD-88 airplanes. Therefore, all of these models may be subject to the same unsafe condition.

FAA's Determination

In light of this information, the FAA finds that, in the interim until the terminating action (described below) can be done, certain procedures should be included in the Performance Section of the FAA-approved Airplane Flight Manual (AFM) of the affected airplanes to provide the flightcrew with the appropriate landing distance and flap positions, if applicable, for wet or icy runways.

Currently, the MD-90 and MD-80 Master Minimum Equipment List (MMEL) allows the in-flight spoiler lockout mechanism system to be inoperative and deactivated for 10 days, which provides unrestricted deployment of the ground spoilers in any flight and landing phase and relief from the landing distance penalties for wet or icy runways. However, the current MD-90 MMEL conflicts with the certification basis of McDonnell Douglas Model MD-90-30 series airplanes, which requires the in-flight spoiler lockout mechanism system to be installed and operative during all operations of the airplane. The FAA finds that this system may be inoperative for 10 days per the MMEL, but it may NOT be deactivated, as currently indicated in the MMEL. Therefore, we have determined that, for affected McDonnell Douglas Model MD-90-30 series airplanes, the Performance Section of the FAA-approved AFM must be revised to include a note to alert the flightcrew of the differences between the MMEL and this prevailing AD.

Although certain affected McDonnell Douglas Model DC-9-81, -82, -83, and -87 series airplanes, and Model MD-88 airplanes have an in-flight spoiler lockout mechanism system installed as a safety enhancement feature, the system may be deactivated for 10 days per the MMEL, because this system is NOT part of the original certification basis of the airplane. Thus, no landing distance penalty for wet or icy runways, as described above, is necessary when this system is deactivated on these airplanes.

Explanation of Relevant Service Information

The FAA has reviewed and approved the applicable Boeing service bulletins identified in the table below, which describe procedures for installing spoiler support bracket assemblies and relays, and revising the spoiler lockout relay wiring.

Alert Service Bulletin	Revision Level	Date	Model
MD80-27A359	Original	January 29, 2001	DC-9-81, -82, -83, and -87 series airplanes, and MD-88 airplanes.
MD80-27A359	01	March 26, 2001	DC-9-81, -82, -83, and -87 series airplanes, and MD-88 airplanes.
MD90-27A031	Original	January 29, 2001	MD-90-30 series airplanes.
MD90-27A031	01	March 26, 2001	MD-90-30 series airplanes.

Accomplishment of these actions eliminates the need for the required AFM revisions described below.

Explanation of the Requirements of the Rule

Since an unsafe condition has been identified that is likely to exist or develop on other McDonnell Douglas Model DC-9-81, -82, -83, and -87 series airplanes, Model MD-88 airplanes, and Model MD-90-30 series airplanes of the same type design, this AD is being issued to prevent the flightcrew from performing a scheduled landing on a runway of potentially insufficient length due to failure of the weight-on-wheels spoiler lockout mechanism system and possible inactivation of the autospoiler actuator, which could result in the airplane overrunning the end of the runway during landing on a wet or icy runway. This AD requires a revision to the Performance Section of the applicable FAA-approved AFM to provide the flightcrew with the appropriate landing distance and flap positions, if applicable, for wet or icy runways. This AD also includes an optional terminating action (i.e., installing spoiler support bracket assemblies and relays, and revising the spoiler lockout relay wiring) for the applicable AFM revision. The optional terminating action, if accomplished, is required to be accomplished per the applicable service bulletin described previously.

Interim Action

The FAA is considering further rulemaking action to require accomplishment of the optional terminating action on McDonnell Douglas Model MD-90-30 series airplanes. However, the planned compliance time for the terminating action is sufficiently long so that prior notice and time for public comment will be practicable.

Operators should note that the FAA does not plan on requiring accomplishment of the optional terminating action on McDonnell Douglas Model DC-9-81, -82, -83, and -87 series airplanes, and Model MD-88 airplanes. As discussed previously, installation of in-flight spoiler lockout mechanism system on these airplanes is a safety enhancement system and is not part of the certification basis of the airplane. However, we recommend that affected operators incorporate the optional terminating action (reference Boeing Alert Service Bulletin MD80-27A359, dated January 29, 2001, or Revision 01, dated March 26, 2001) instead of permanently deactivating the in-flight spoiler lockout mechanism system.

Determination of Rule's Effective Date

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified under the caption “ADDRESSES.” All communications received on

or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.
- For each issue, state what specific change to the AD is being requested.
- Include justification (e.g., reasons or data) for each request.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2001-NM-44-AD." The postcard will be date stamped and returned to the commenter.

Regulatory Impact

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption "ADDRESSES."

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
Federal Aviation
Administration

We post ADs on the internet at "av-info.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2001-07-10 MCDONNELL DOUGLAS: Amendment 39-12176. Docket 2001-NM-44-AD.

Applicability: Models identified in Table 1 of this AD, certificated in any category; excluding those airplanes on which the modification specified in the applicable service bulletin listed in Table 1 of this AD has been done. Table 1 is as follows:

Table 1 - Applicability.

Model	As Listed In
DC-9-81, -82, -83, and -87 series airplanes, and MD-88 airplanes.	Boeing Alert Service Bulletin MD80-27A359, Revision 01, dated March 26, 2001.
MD-90-30 series airplanes.	Boeing Alert Service Bulletin MD90-27A031, Revision 01, dated March 26, 2001.

Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been otherwise modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (d) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent the flightcrew from performing a scheduled landing on a runway of potentially insufficient length due to failure of the weight-on-wheels spoiler lockout mechanism system and possible inactivation of the autospoiler actuator, which could result in the airplane overrunning the end of the runway during landing on a wet or icy runway, accomplish the following:

Airplane Flight Manual Revisions

(a) For Model DC-9-81, -82, -83, and -87 series airplanes, and MD-88 airplanes: Within 48 clock hours after the effective date of this AD, revise the Performance Section of the FAA-approved Airplane Flight Manual (AFM) to include the following statement. This may be done by inserting a copy of this AD in the AFM.

"In-flight Spoiler Lockout Mechanism Installed and Activated, and Automatic Ground Spoiler System Operated.

When the in-flight spoiler lockout mechanism is installed and activated, the wet or icy runway landing field length, which is determined from the appropriate Landing Field Length and Speed Chart, must be increased by 1,720 feet under either of the following conditions:

a. The weight-on-wheels unlocking feature is not installed; or
b. The weight-on-wheels unlocking feature is installed, but inoperative.

When the in-flight spoiler lockout mechanism is deactivated, the above landing field length is not required."

(b) For Model MD-90-30 series airplanes: Within 48 clock hours after the effective date of this AD, revise the Performance Section of the FAA-approved AFM to include the following statement. This may be done by inserting a copy of this AD in the AFM.

"Landing Field Length for A Wet or Icy Runway.

Increase landing field length, which is determined from the Basic Manual, by 1,800 feet (549 meters) for a wet or icy runway with 28-degree and 40-degree flaps.

There is no landing field length penalty for a dry runway.

In-flight spoiler lockout mechanism may NOT be deactivated, as indicated in the Master Minimum Equipment List (MMEL)."

Note 2: The MD-90 MMEL, system and sequence number 65-02, and the second proviso of system and sequence number 65-03, specifies currently that, for 10 days, the in-flight spoiler lockout mechanism system may be deactivated. Where differences exist between the current specification of the MMEL and the requirements of this AFM limitation, the AFM limitation prevails.

Optional Terminating Modifications

(c) Accomplishment of the actions specified in paragraphs (c)(1) and (c)(2) of this AD, per the applicable Boeing service bulletin identified in Table 2 of this AD, constitutes terminating action for the AFM revision requirements of paragraph (a) or (b) of this AD, as applicable. After doing those actions, the AFM revision required by paragraph (a) or (b) of this AD, as applicable, may be removed from the AFM. Table 2 is as follows:

Table 2 – Applicable Service Bulletins.

Alert Service Bulletin	Revision Level	Date	Model
MD80-27A359	Original or 01	January 29, 2001 March 26, 2001	DC-9-81, -82, -83, and –87 series airplanes, and MD-88 airplanes.
MD90-27A031	Original or 01	January 29, 2001 March 26, 2001	MD-90-30 series airplanes.

(1) Install the spoiler support bracket assemblies and relays; and
(2) Revise the spoiler lockout relay wiring.

Alternative Methods of Compliance

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Los Angeles Aircraft Certification Office (ACO), FAA. Operators shall submit their requests through an appropriate FAA

Principal Maintenance Inspector, who may add comments and then send it to the Manager, Los Angeles ACO.

Note 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Los Angeles ACO.

Special Flight Permits

(e) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Effective Date

(f) This amendment becomes effective on April 27, 2001.

FOR FURTHER INFORMATION CONTACT: Albert Lam, Aerospace Engineer, Systems and Equipment Branch, ANM-130L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5346; fax (562) 627-5210.

Issued in Renton, Washington, on April 5, 2001.
Donald L. Riggin, Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.